

Serial No. **10/621,463**  
Amdt. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) An uplink synchronization detecting method of a mobile communication system, comprising:  
comparing a synchronization detection threshold value set for each section of a time period in which a quality of a pilot is measured, and a pilot bit error rate calculated for each section; and  
judging a synchronization detection ~~by~~based on a result of said comparing.
  
2. (Currently amended) The method of claim 1, wherein if a pilot bit error rate calculated in a certain section of said time period is smaller than the synchronization detection threshold value set for the section, it is judged to be in synchronization status, and if a pilot bit error rate calculated for every section of said time period is not smaller than a synchronization detection threshold value set for every section, a pilot bit error rate calculated for a first section is compared with a certain synchronization failure threshold value, and then, if the pilot bit error rate of the first section is greater than the synchronization failure threshold value, it is judged to be synchronization failure.

Serial No. **10/621,463**  
Amdt. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

3. (Original) The method of claim 1, wherein the time period for measuring the pilot quality includes a plurality of frames or a plurality of slots.

4. (Original) The method of claim 1, wherein if the result of the comparison indicates the pilot bit error rate is smaller than the synchronization detection threshold value set for the section, synchronization is indicated.

5. (Currently amended) The method of claim 1, wherein if the result of the comparison for every section indicates the pilot bit error rate for every section is not smaller than a corresponding synchronization detection threshold value set for every section, a pilot bit error rate calculated for a first section is compared with a synchronization failure threshold value, and then, if the pilot bit error rate of the first section is greater than the synchronization failure threshold value, a synchronization failure is indicated.

6. (Original) An uplink synchronization detecting method of a mobile communication system comprising:

calculating a pilot bit error rate (BER) of an uplink allocated to a finger, for a first section;  
comparing the first pilot BER calculated for the first section with a first

Serial No. **10/621,463**  
Amtd. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

synchronization detection threshold value set for the first section;

judging the uplink is in synchronization status if the first pilot BER is smaller than the first synchronization detection threshold value;

calculating a second pilot BER of the uplink for a second section if the first pilot BER is not smaller than the first synchronization detection threshold value;

comparing the second pilot BER calculated for the second section with a second synchronization detection threshold value set for the second section; and

judging the uplink is in synchronization status if the second pilot BER is smaller than the second synchronization detection threshold value.

7. (Original) The method of claim 6, further comprising:

comparing the first pilot BER and a synchronization failure threshold value, if the second pilot BER is not smaller than the second synchronization detection threshold value; and

judging the uplink is out of synchronization if the first pilot BER is greater than the synchronization failure threshold value.

8. (Original) The method of claim 6, wherein the first and second sections comprise frames or slots.

Serial No. **10/621,463**  
Amdt. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

9. (Original) The method of claim 8, wherein the second section includes the first section and a prescribed numbers of frames to be accumulated to the first section.

10. (Currently amended) The method of claim 8, wherein the second section includes the first section and a prescribed ~~numbers~~number of slots to be accumulated to the first section.

11. (Original) The method of claim 6, further comprising other sections in addition to the first and second sections.

12. (Original) The method of claim 6, wherein a length of the section for calculating the pilot BER corresponds to the synchronization detection threshold value .

13. (Original) The method of claim 12, wherein as the length of the section for calculating the pilot BER decreases, the synchronization detection threshold value decreases.

14. (Original) The method of claim 6, wherein the first synchronization detection threshold value is smaller than the second synchronization detection threshold value.

15. (Original) A mobile communication system, comprising:

logic configured to compare a synchronization detection threshold value set for each section of a time period, wherein a pilot bit error rate is calculated for each section; and

logic configured to determine a synchronization detection for each section based on a result of said comparison.

16. (Original) The system of claim 15, wherein the time period includes at least one of a plurality of frames and a plurality of slots.

17. (Original) The system of claim 15, wherein if the result of the comparison indicates the pilot bit error rate is smaller than the synchronization detection threshold value set for the section, synchronization is indicated.

18. (Currently amended) The system of claim 15, wherein if the result of the comparison for every section of said time period indicates the pilot bit error rate of every section is not smaller than a corresponding synchronization detection threshold value set for every section, a pilot bit error rate calculated for a first section is compared with a synchronization failure threshold value, and then, if the pilot bit error rate of the first section is greater than the synchronization failure threshold value, a synchronization failure is indicated.

Serial No. **10/621,463**  
Amdt. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

19. (Original) The system of claim 15, further comprising:

logic configured to calculate a pilot bit error rate (BER) of an uplink allocated to a finger, for a first section;  
logic configured to compare the first pilot BER calculated for the first section with a first synchronization detection threshold value set for the first section; and  
logic configured to determine the uplink is in synchronization status if the first pilot BER is smaller than the first synchronization detection threshold value.

20. (Original) The system of claim 19, further comprising:

logic configured to calculate a second pilot BER of the uplink for a second section if the first pilot BER is not smaller than the first synchronization detection threshold value;  
logic configured to compare the second pilot BER calculated for the second section with a second synchronization detection threshold value set for the second section; and  
logic configured to determine the uplink is in synchronization status if the second pilot BER is smaller than the second synchronization detection threshold value.

21. (Original) The system of claim 20, further comprising:

logic configured to compare the first pilot BER and a synchronization failure threshold value, if the second pilot BER is not smaller than the second synchronization

Serial No. **10/621,463**  
Amdt. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

detection threshold value; and

logic configured to determine the uplink is out of synchronization if the first pilot BER is greater than the synchronization failure threshold value.

22. (Original) The system of claim 20, wherein the first and second sections comprise frames or slots.

23. (Original) The system of claim 20, wherein the second section includes the first section and additional frames to be added to the first section.

24. (Original) The system of claim 20, wherein the second section includes the first section and additional slots to be added to the first section.

25. (Original) The system of claim 20, wherein the first synchronization detection threshold value is smaller than the second synchronization detection threshold value.

26. (Original) The system of claim 15, wherein a length of the section for calculating the pilot BER corresponds to the synchronization detection threshold value.

Serial No. **10/621,463**  
Amdt. dated April 28, 2006  
Reply to Office Action of January 30, 2006

Docket No. **P-0563**

27. (Original) The system of claim 25, wherein as the length of the section for calculating the pilot BER decreases, the synchronization detection threshold value decreases.

28. (Original) The system of claim 15, wherein the system is a base station.